

What is claimed is:

1. A general purpose computer-based system for generating musical output data related to input notes to create repeated musical effects, said system comprising:
  - 5 an input note having a pitch value represented in a predetermined electronic format;
  - a transposition pattern having a current transposition pattern step including a transposition data item indicating a variable transposition of said input note;
  - 10 a transposed note having said input pitch value modified according to said transposition data item, said current transposition pattern step being advanced to a next transposition step;
  - a rhythm pattern comprised of a current rhythm pattern step including a rhythm data item representing a predetermined period of time, said current rhythm pattern step being advanced to a next rhythm pattern step, and
  - 15 a scheduler for scheduling said transposed note to be output according to said rhythm data item.
- 20 2. A general purpose computer-implemented method of generating musical output data for repeating musical effects on input notes, said method comprising storing an input note having an input pitch and at least one repetition of:

- outputting said stored note with said stored pitch;
- transposing said stored pitch to create a transposed note according to a transposition data item, said transposition data item associated with a current transposition pattern step in a transposition pattern, said transposition pattern
- 5 having a transposition pattern index indicating said current transposition pattern step;
- advancing said current transposition pattern step to a next transposition pattern step;
- determining an output time according to a rhythm data item, said rhythm
- 10 data item associated with a current rhythm pattern step in a rhythm pattern, said rhythm pattern having a rhythm pattern index indicating said current rhythm pattern step;
- advancing said current rhythm pattern step to a next rhythm pattern step;
- storing said transposed note as said stored note, and
- 15 scheduling said stored note to be output at said output time.

- 3. The general purpose computer-implemented method of claim 2 further comprising:
  - detecting a predetermined number of repetitions, and
  - 20 terminating said method based upon said detected predetermined number of repetitions.

4. The general purpose computer-implemented method of claim 2 further comprising:

detecting said stored note having a pitch outside a predetermined range,

and

5 terminating said method based upon said detected note.

5. The general purpose computer-implemented method of claim 2 further comprising:

detecting another input note, and

10 terminating said method based upon said detected another input note.

6. The general purpose computer-implemented method of claim 2, wherein said input note further includes an input velocity, said method further comprising:

15 detecting a predetermined period of time, and

terminating said method based upon said detected period of time.

7. The general purpose computer-implemented method of claim 2, wherein said input note further includes an input velocity, said method further comprising:

altering said input velocity of said transposed note according to a velocity data item, said velocity data item associated with a current velocity

pattern step in a velocity pattern, said velocity pattern having a velocity pattern index indicating said current velocity pattern step, and  
advancing said current velocity pattern step to a next velocity pattern step;  
5       detecting said transposed note having a velocity outside predetermined range, and  
terminating said method based upon said detected transposed note.

8. The general purpose computer-implemented method of claim 2  
10      wherein said input note further includes a velocity, said method further comprising:  
terminating said output of said stored note detecting a predetermined period of time, and  
terminating said method based upon said detected period of time.

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9. A general purpose computer-implemented method of generating musical output data for repeating musical effects on input notes, said method comprising:  
inputting an input note having an input pitch;  
20      outputting said input note;  
transposing said input pitch to create a transposed note according to a transposition data item, said transposition data item associated with a current

transposition pattern step in a transposition pattern, said transposition pattern having a transposition pattern index indicating said current transposition pattern step;

advancing said current transposition pattern step to a next transposition pattern step;

determining an output time according to a rhythm data item, said rhythm data item associated with a current rhythm pattern step in a rhythm pattern, said rhythm pattern having a rhythm pattern index indicating said current rhythm pattern step;

10 advancing said current rhythm pattern step to a next rhythm pattern step; scheduling said transposed note to be output at said output time, and outputting said transposed note.

10. The general purpose computer-implemented method of claim 9  
15 further comprising converting said transposed pitch to a converted pitch to create a converted note according to a conversion table.

11. The general purpose computer-implemented method of claim 10  
wherein said step of converting further comprises:  
20 analyzing a chord of input control notes, and  
selecting a converted pitch based on said analyzed chord.

12. The computer-implemented method of claim 9 wherein said input note further includes an input velocity, said method further comprising:

altering said input velocity of said transposed note according to a velocity data item, said velocity data item associated with a current velocity

5 pattern step in a velocity pattern, said velocity pattern having a velocity pattern index indicating said current velocity pattern step, and

advancing said current velocity pattern step to a next velocity pattern step.

10 13. The computer-implemented method of claim 9 wherein said input note further includes an input duration, said method further comprising:

altering said input duration of said transposed note according to a duration data item, said duration data item associated with a current duration

15 pattern step in a duration pattern, said duration pattern having a duration pattern index indicating said current duration pattern step, and

advancing said current duration pattern step to a next duration pattern step.

14. The general purpose computer-implemented method of claim 9 wherein said input note further includes an input spatial location, said method

20 further comprising:

altering said input spatial location of said transposed note according to a spatial location data item, said spatial location data item associated with a

current spatial location pattern step in a spatial location pattern, said spatial location pattern having a spatial location pattern index indicating said current spatial location pattern step, and

advancing said current spatial location pattern step to a next spatial

5 location pattern step.